

| L Number | Hits | Search Text  | DB                 | Time stamp          |
|----------|------|--|--------------------|---------------------|
| -        | 0    | ("""viv""").PN.  | EPO; JPO; DERWENT  | 2002/06/16<br>12:01 |
| -        | 78   | "viv"  | EPO; JPO; DERWENT  | 2002/06/16<br>12:39 |
| -        | 9    | "vortex-induced" adj vibration   | EPO; JPO; DERWENT  | 2002/06/16<br>12:39 |
| -        | 0    | "vortex-induce" adj vibration  | EPO; JPO; DERWENT  | 2002/06/16<br>12:39 |
| -        | 13   | vortex adj induce adj vibration  | EPO; JPO; DERWENT  | 2003/02/03<br>14:12 |
| -        | 37   | vortex adj induced adj vibration   | EPO; JPO; DERWENT  | 2002/06/16<br>12:40 |
| -        | 111  | "viv" or ("vortex-induced" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration)   | EPO; JPO; DERWENT  | 2002/07/14<br>13:52 |
| -        | 1    | ("5279368").PN.  | USPAT              | 2002/06/16<br>12:21 |
| -        | 331  | (166/350 or 166/367).ccls.   | USPAT              | 2002/06/16<br>12:21 |
| -        | 1    | ((("5279368").PN.) and ((166/350 or 166/367).ccls.))   | USPAT              | 2002/06/16<br>12:21 |
| -        | 131  | "viv"  | USPAT;<br>US-PGPUB | 2002/06/16<br>12:39 |
| -        | 20   | "vortex-induced" adj vibration   | USPAT;<br>US-PGPUB | 2002/06/16<br>12:39 |
| -        | 1    | "vortex-induce" adj vibration  | USPAT;<br>US-PGPUB | 2002/06/16<br>12:39 |
| -        | 4    | vortex adj induce adj vibration  | USPAT;<br>US-PGPUB | 2002/06/16<br>12:40 |
| -        | 39   | vortex adj induced adj vibration   | USPAT;<br>US-PGPUB | 2002/06/16<br>12:41 |
| -        | 153  | "viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration)  | USPAT;<br>US-PGPUB | 2002/07/14<br>13:52 |
| -        | 551  | (405/212-216).CCLS.  | USPAT              | 2002/06/16<br>13:23 |
| -        | 358  | ((405/211) or (405/211.1)).CCLS.   | USPAT              | 2002/06/16<br>14:16 |
| -        | 484  | ((405/212-216).CCLS.) not (((405/211) or (405/211.1)).CCLS.)   | USPAT              | 2002/06/16<br>15:52 |
| -        | 75   | singh and 166/\$.ccls.   | USPAT              | 2002/06/16<br>15:53 |
| -        | 20   | (singh and 166/\$.ccls.) and electrical  | USPAT              | 2002/06/16<br>15:58 |
| -        | 331  | ((166/350) or (166/367)).CCLS.   | USPAT              | 2002/06/16<br>15:59 |
| -        | 842  | ((405/212-216).CCLS.) or (((405/211) or (405/211.1)).CCLS.)  | USPAT              | 2002/06/16<br>15:59 |
| -        | 974  | (((405/212-216).CCLS.) or (((405/211) or (405/211.1)).CCLS.)) or ("viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration))   | USPAT              | 2002/06/16<br>15:59 |
| -        | 310  | (((166/350) or (166/367)).CCLS.) not (((((405/212-216).CCLS.) or (((405/211) or (405/211.1)).CCLS.)) or ("viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration))) | USPAT              | 2002/06/16<br>16:00 |
| -        | 107  | (114/243).CCLS.  | USPAT              | 2002/06/16<br>16:01 |

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| - | 92   | ((114/243).CCLS.) not (((405/212-216).CCLS.) or (((405/211) or (405/211.1)).CCLS.) or ("viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration))) cut\$3 same (slot or groove) same pipe | USPAT              | 2002/06/16<br>17:09 |
| - | 2912 | cut\$3 near4 (slot or groove) near10 pipe   | USPAT              | 2002/07/14<br>13:28 |
| - | 590  | cut\$3 near4 (slot or groove) near10 pipe   | USPAT              | 2002/07/14<br>13:24 |
| - | 64   | (cut\$3 near4 (slot or groove) near10 pipe ) and plastic and cylinder   | USPAT              | 2002/07/14<br>13:27 |
| - | 1094 | plastic adj working   | USPAT              | 2002/07/14<br>13:29 |
| - | 2    | (cut\$3 same (slot or groove) same pipe ) and (plastic adj working)   | USPAT              | 2002/07/14<br>13:28 |
| - | 89   | (plastic adj working) and (cut\$3 same (slot or groove))  | USPAT              | 2002/07/14<br>13:29 |
| - | 3697 | plastic adj (working or forming)  | USPAT              | 2002/07/14<br>13:29 |
| - | 26   | (plastic adj (working or forming)) same (cut\$3 same (slot or groove))  | USPAT              | 2002/07/14<br>13:33 |
| - | 228  | (making or forming) same (plastic near2 pipe) same(groove or cut or slot)   | USPAT              | 2002/07/14<br>13:40 |
| - | 159  | ((making or forming) same (plastic near2 pipe) same(groove or cut or slot)) and (cut\$4)  | USPAT              | 2002/07/14<br>13:40 |
| - | 32   | (making or forming) same (plastic near2 pipe) same(groove or slot) same (cut\$4)  | USPAT              | 2002/07/14<br>13:41 |
| - | 2    | singh and vortex and 405/\$.cccls.  | USPAT              | 2002/07/14<br>13:51 |
| - | 151  | "viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration)   | USPAT;<br>US-PGPUB | 2002/07/14<br>13:52 |
| - | 19   | ("viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration)) and 405/\$.cccls.   | USPAT;<br>US-PGPUB | 2002/07/14<br>13:52 |
| - | 3    | ((("viv" or ("vortex-induced" adj vibration) or ("vortex-induce" adj vibration) or (vortex adj induce adj vibration) or (vortex adj induced adj vibration)) and 405/\$.cccls.) and (groove or slot)   | USPAT;<br>US-PGPUB | 2002/07/14<br>13:55 |
| - | 5    | 405/211.cccls. and singh  | USPAT              | 2002/07/14<br>14:03 |

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|---|------|---|---|--|
| - | 73   | (("6148751") or ("5984584") or ("6349664") or ("6179524") or ("6223672") or ("6223672") or ("6067922") or ("6401646") or ("6048136") or ("6196768") or ("6010278") or ("6092483") or ("6227137") or ("5983822") or ("5738034") or ("6263824") or ("5214244") or ("6062769") or ("5518695") or ("4395160") or ("4821804") or ("5657823") or ("5746148") or ("5791695") or ("5826658") or ("6220787") or ("6220787") or ("5538696") or ("4398487") or ("5020204") or ("4319149") or ("4505618") or ("4841895") or ("5816436") or ("6082391") or ("6244785") or ("6321844") or ("5410979") or ("5421413") or ("4299563") or ("4792238") or ("4799827") or ("4841123") or ("4360226") or ("4397738") or ("4482451") or ("4574869") or ("4828558") or ("5208502") or ("5297632") or ("5299790") or ("5433273") or ("5433423") or ("5474132") or ("5492656") or ("5515236") or ("5549164") or ("5553976") or ("5711486") or ("5775844") or ("5782833") or ("5806821") or ("5837208") or ("5887659") or ("5988523") or ("6138368") or ("6176663") or ("4875996") or ("4886644") or ("4971678") or ("5061457") or ("5569435") or ("5665949") or ("6202578") or ("4114393")).PN. | USPAT                                       | 2002/07/14<br>21:28                        |
| - | 5    | vortex\$ and singh  | EPO; JPO;<br>DERWENT                        | 2003/02/03<br>14:12                        |
| - | 555  | vortex\$ and singh  | USPAT;<br>US-PGPUB                          | 2003/02/03<br>14:12                        |
| - | 16   | (vortex\$ and singh) and vibration  | USPAT;                                      | 2003/02/03                                 |
| - | 86   | singh.xa. and 405/\$.ccls.  | US-PGPUB;<br>USPAT;                         | 2003/02/03<br>14:13                        |
| - | 1    | (notch\$2 or groove) same ('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration)) ('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration)) ('('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration))) and (water or 'sub-sea' or 'under-sea' or (under adj water) or 'under-water' or sea)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | 2003/02/03<br>14:23<br>2003/02/03<br>14:28 |
| - | 1762 |   | USOCR                                       | 2003/02/03<br>14:36                        |
| - | 372  |   | USOCR                                       | 2003/02/03<br>14:37                        |

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| - |  | 85    | ((('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration))) and (water or 'sub-sea' or 'under-sea' or (under adj water) or 'under-water' or sea)) and (groove or notch\$2) | USOCR                                       | 2003/02/03<br>14:37 |
| - |  | 31    | ((('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration))) and (notch\$2 or groove)   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/03<br>14:41 |
| - |  | 292   | ((('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration))) and (singh and 405/\$.ccls.  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/04<br>10:56 |
| - |  | 96    | singh and 405/\$.ccls.  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/03<br>17:39 |
| - |  | 1     | ("2602299").PN.   | USPAT                                       | 2003/02/03<br>17:44 |
| - |  | 2     | 2602299.URPN.   | USPAT                                       | 2003/02/03<br>17:39 |
| - |  | 1     | ("6193493").PN.   | USPAT                                       | 2003/02/03<br>17:45 |
| - |  | 1     | ("6193439").PN.   | USPAT                                       | 2003/02/03<br>17:53 |
| - |  | 665   | ((405/150.2) or (405/150.1) or (405/146) or (405/151)).CCLS.  | USPAT;<br>US-PGPUB                          | 2003/02/03<br>18:00 |
| - |  | 6     | ("3381479"   "3545213"   "3698066"   "3858400"   "4129991"   "4695188").PN.   | USPAT                                       | 2003/02/03<br>17:58 |
| - |  | 0     | substrate same claddingt  | EPO; JPO;<br>DERWENT                        | 2003/02/03<br>18:00 |
| - |  | 2564  | substrate same cladding   | EPO; JPO;<br>DERWENT                        | 2003/02/03<br>18:01 |
| - |  | 2     | (substrate same cladding) and (concrete near13 spray\$3)  | EPO; JPO;<br>DERWENT                        | 2003/02/03<br>18:01 |
| - |  | 2     | 2602299.URPN.   | USPAT                                       | 2003/02/03<br>18:12 |
| - |  | 25371 | (wall near3 thickness) same reduc\$4  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/04<br>10:57 |
| - |  | 292   | ('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/04<br>10:58 |
| - |  | 5     | ((wall near3 thickness) same reduc\$4) and ((('viv' or (vortex adj induced adj vibration) or ('vortex-induced' adj vibration) or 'vortex-induced-vibration' or 'vortex-induce-vibration' or (vortex adj induce adj vibration) or('vortex-induce' adj vibration)))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT | 2003/02/04<br>10:58 |
| - |  | 2     | ((("5279368") or ("5330294"))).PN.  | USPAT                                       | 2003/02/04<br>23:25 |

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|---|------|---|------------------------------------|---------------------|
| - | 1245 | ((405/211) or (405/211.1) or (405/212-216)).CCLS.   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/02/04<br>23:57 |
| - | 2    | ("5967699").PN.   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/02/05<br>02:00 |
| - | 567  | ((114/243) or (166/350) or (166/367)).CCLS.   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/02/05<br>02:03 |
| - | 542  | ((((114/243) or (166/350) or (166/367)).CCLS.) not ((405/211) or (405/211.1) or (405/212-216)).CCLS.) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/02/05<br>02:04 |